HEALTH CARE FINANCING ADMINISTRATION

SUMMARY REPORT TO CONGRESS

Monitoring the Impact of Medicare Physician Payment Reform on Utilization and Access

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Summary Report to Congress

Monitoring the Impact of Medicare Physician Payment Reform on Utilization and Access

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EXECUTIVE SUMMARY

Purpose

This report responds to the Omnibus Budget Reconciliation Act (OBRA) of 1989 (Public Law 101-239) which amended the Social Security Act by adding Section 1848, "Payments for Physicians' Services." Section 1848 specified three major components of a new Medicare payment system for physicians' services: the development of a fee schedule; the establishment of limits on physicians' charges exceeding the fee schedule amount; and the establishment of processes to set target growth rates for expenditures for physicians' services.

The major intent of this legislation was to provide more rational and equitable payment. The Medicare fee schedule led to a shift of Medicare payments from procedural services to evaluation and management services and from urban areas to rural areas.

Section 1848(g)(7) requires the Secretary of the Department of Health and Human Services to monitor and report annually to Congress on changes in utilization and access, by population groups, geographic areas, types of services, and on possible sources of inappropriate utilization.

Approaches

Eight separate studies, with varied data sources and timeframes, were conducted to develop information about access to care in the period before and after the introduction of the Medicare fee schedule. The Health Care Financing Administration (HCFA) adopted a multi-dimensional framework for monitoring changes in access to care. First, HCFA selected several measures to serve as indicators of access to physicians' care. These access measures include:

- Use of ambulatory visits;
- Percent of persons reporting a health condition and not receiving any care in the previous year;
- Use of preventive services;
- Hospitalization rates for conditions that medical experts consider sensitive to appropriate and continuing ambulatory care; and
- Use of referral sensitive procedures.

Taken together, these measures provide a broad and significant set of indicators for monitoring access to physicians' care.

Second, several vulnerable population groups that are identifiable in HCFA's data sources are being monitored in order to determine if the new payment methods increased barriers that already may have existed or if they presented new barriers to care. These include beneficiaries who are: living under the poverty level; dually eligible for Medicare and Medicaid; black; disabled and under age 65; the very old (i.e., age 85 and over); without supplemental health insurance; residing in rural areas; residing in areas designated as health professional shortage areas; and residing in areas expected to experience the greatest decreases in average Medicare fees.

Third, three major policy issues were identified for study:

1. Did the Medicare fee schedule invoke the kinds of changes anticipated with regard to shifts of Medicare payments from procedural services toward evaluation and management services?

2. Did payment reform present new barriers to vulnerable populations?

3. What have been the impacts on physicians' practices?

Major Conclusions

From the broad perspective taken for monitoring utilization and access to care for this report, as well as our knowledge of the Medicare program and other survey data, there are five principal conclusions that can be drawn:

1. The Medicare physician fee schedule has produced the kinds of shifts in payments that were anticipated, by type of service, physicians' specialty, and geographic area. In particular, the introduction of the fee schedule was accompanied by a relative increase in allowed charges for visits and consultations and a relative decrease in allowed charges for procedure-based services.

2. For vulnerable populations studied, no new barriers to care were found although there are clear indications that many population groups continue to face barriers to care.

3. Improved health insurance coverage is an important factor in increasing access to care.

4. Additional understanding is needed of barriers to care for vulnerable populations in order to further improve their access to care.

5. Effective monitoring of access to care requires the development of more sensitive measures of access as well as better data sets and linkages to other information.

Glossary

AHCPR	Agency for Health Care Policy and Research
ACS	Ambulatory Care Sensitive
BETOS	Berenson-Eggers Type of Service
CABG	Coronary artery bypass graft
CHER	Center for Health Economics Research
CPT	Current procedural terminology
HCFA	Health Care Financing Administration
HCPCS	HCFA Common Procedure Coding System
HCQIP	Health Care Quality Improvement Program
HMO	Health maintenance organization
HPSA	Health Professional Shortage Areas
MAAC	Maximum Allowable Actual Charge
MCBS	Medicare Current Beneficiary Survey
MEDTEP	Medical Treatment and Effectiveness Program
MFS	Medicare Fee Schedule
MPIES	Medicare Physician Identification and Eligibility System
MVPS	Medicare Volume Performance Standards
NCH	National Claims History
NHIS	National Health Interview Survey
OBRA	Omnibus Budget Reconciliation Act
PORT	Patient Outcomes Research Teams
PRO	Peer Review Organization

PTCA	Percutaneous transluminal coronary angioplasty
UCDSS	Uniform Clinical Data Set System
UPIN	Unique Physician Identifier Number

INTRODUCTION

This report is the Secretary's fourth annual report to Congress on monitoring access to care for Medicare beneficiaries. It responds to the requirements of the Omnibus Budget Reconciliation Act of 1989 to monitor the impact of Medicare physician payment changes on access to care. The report has three parts. Part 1 provides background information about the payment changes, identifies three major policy issues raised by the implementation of the payment changes, and discusses the approaches taken to analyze these issues. Part 2 summarizes important findings. Part 3 contains a discussion and conclusions. Eight separate studies were conducted for this report.

The Secretary's report to Congress in 1993 was based on preliminary data for 1992. Early data indicated that the new payment policies invoked the kind of changes intended by the legislation, and that the changes did not appear to have adversely affected access to care. This report, based on additional data, confirms those preliminary findings. Although there is no evidence to associate Medicare payment changes with increased barriers to care, this report shows persistent differences across population subgroups in most measures analysts use to monitor equity in access to care.

PART 1. BACKGROUND

Information about OBRA 1989. The enactment of the Omnibus Budget Reconciliation Act (OBRA) of 1989 (Public Law 101-239) brought about the most significant changes in Medicare physician payment policy since the program began in 1966. These changes have three major components:

- The introduction of a Medicare fee schedule (MFS) which was implemented beginning January 1, 1992 under a transition period ending in 1996;
- The establishment of limits on physicians' charges exceeding the fee schedule amount; and
- The institution of target rates of growth in expenditures for physicians' services.

The MFS was designed to bring about greater equity in physicians' payments between procedure-based services and primary care services, and greater equity across geographic areas because fees will vary only to reflect differences in practice costs.

The new payment policies have potentially different impacts on the availability of physicians' services according to specialty and location. The MFS led to lower fees for physicians in surgical specialties and in urban areas relative to physicians in primary care and medical specialties and in rural areas. Physicians' services furnished in health professional shortage areas receive a 10 percent bonus. On unassigned claims, enrollees'

liability can be no higher than 15 percent of the nonparticipating physician fee schedule amounts in 1993 and thereafter.

At the same time, the changes in Medicare payment policies have potentially different impacts on the demand for services. Beneficiary liability for the coinsurance amount would be expected to increase for visits and consultations because the 20 percent will be based on higher amounts (although higher coinsurance may be offset by restrictions on extra-billings). The coinsurance amount would be expected to decrease for procedure-based services.[1]

Section 1848(g)(7) of Social Security Act requires the Secretary of the Department of Health and Human Services to monitor and report annually to Congress on changes in utilization and access, by population groups, geographic areas, types of service, and on possible sources of inappropriate utilization.

Payment reform is part of a continuum. Before the OBRA 1989 reforms were instituted, a number of significant changes were initiated in physician payment policy that affected, and will continue to affect, utilization and access.[2] Many other forces are also likely to continue to influence the demand for and supply of physicians' services received by Medicare beneficiaries, including the diffusion of new technology into the health delivery system. It is important, therefore, to view any changes found in access, utilization, and appropriateness in light of the many factors that may influence the health care system in general and Medicare in particular.

Defining and measuring access. Access is viewed primarily as "...those dimensions which describe the potential and actual entry of a given population group to the health care delivery system" (Aday, 1984). In essence, measures of access are intended to reflect whether individuals are able to obtain appropriate care when needed.

Measures of access can be grouped into two categories: potential access and realized access. Potential access refers to health care system characteristics (such as the supply of physicians and assignment rates) and individual characteristics (such as insurance coverage or having a regular source of care) that influence whether the individual obtains care.

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[1] Beneficiaries with supplemental health insurance policies generally are covered for the Part B coinsurance amounts and may not experience directly these changes as out-of-pocket liabilities.

[2] These include the implementation in 1975 of the Medicare Economic Index as a limit on increases in prevailing charges; the initiation in 1984 of the participating physician program to provide incentives for physicians to accept assignment; the introduction in 1987 of the Maximum Allowable Actual Charge (MAAC) limits which restricted the amount non-participating physicians could charge; the reductions in prevailing charges for overpriced procedures instituted for one group of procedures in 1988 and for another in 1990; and the institution of fee schedules for radiology in 1989 and anesthesiology in 1990.

Realized access refers to the actual use of services and is generally measured in terms of utilization rates, often by specialty and type of service. Commonly used measures are the proportion of the population with at least one office visit and the hospital discharge rate. Realized access is a critical dimension, because it reflects whether individuals and population groups actually obtained services.

We have learned that there are many facets of access to care. For example, Medicare data show that total physician visit rates and hospital discharge rates are similar for black beneficiaries compared to white beneficiaries. At the same time, there are striking differences between black and white beneficiaries in the rates of some procedures performed in the hospital, such as hip replacement and coronary artery revascularization. In discussing the variations in certain procedure rates across population subgroups, the Institute of Medicine's report, "Access to Health Care in America," (IOM, 1993) describes these procedures as "referral sensitive surgeries" because access to these procedures depends on the judgement of the physician who sees the patient first and decides whether to refer the patient for specialty care.

Differences in utilization rates of various procedures are difficult to analyze, however, with most generally available data sets. A number of factors other than barriers to care can influence the use of these procedures, including differences in levels of severity of disease across population subgroups, differences in patient preferences, and the discretionary nature of many procedures. Nonetheless, substantial differences in utilization rates of referral sensitive procedures raise questions about barriers to care and point to the need to monitor these rates.

From another perspective, analysts have suggested monitoring the hospitalization rate for such medical conditions as asthma or diabetes, which are sensitive to good ambulatory care, because high rates may be an indicator of barriers to appropriate and continuing ambulatory care.

Accordingly, to gain a broad perspective, the following measures are being monitored for the Medicare population:

- **Ambulatory visit rates.**
- **Percent of persons reporting a health condition and not receiving any care in the previous year.**
- **Use of preventive services.**
- **Hospitalization rates for conditions that are considered sensitive to appropriate and continuing ambulatory care.**
- **Use of referral sensitive procedures.**

The next sections provide an overview of the basic approaches used for monitoring access to care; the three major issues raised by the changes made in Medicare payment policies; and the data sets and studies performed to analyze these issues.

Basic approach. The basic approach taken is to track these measures of access for the total Medicare population and for those vulnerable subgroups that are identifiable in the data sources used for this report. By vulnerable subgroups we mean, first, those population groups with characteristics that suggest they may have already been at-risk of not receiving needed care and may face additional risks because of the changes in payment policies. And, second, our definition also includes population groups who may be newly vulnerable because of the payment changes. The vulnerable population subgroups included in HCFA's monitoring are:

- **Beneficiaries who are living under the poverty level**, who may face barriers to care because of income.

- **Beneficiaries dually eligible for Medicare and Medicaid**, who may face barriers to care because of income and health status.

- **Black beneficiaries**, who may face racial or socioeconomic barriers.

- **Disabled beneficiaries under age 65 and very old beneficiaries,** who may face barriers because they have greater levels of chronic illnesses and continuing care needs, or because of their frailty.

- **Beneficiaries without supplemental health insurance,** who may face barriers from out-of-pocket costs. (Increases in physicians' fees for visits automatically increase beneficiary coinsurance.)

- **Beneficiaries residing in rural areas,** because the supply of physicians in rural areas is lower than average.

- **Beneficiaries residing in areas designated as health professional shortage areas (HPSAs).**

- **Beneficiaries residing in areas expected to experience the greatest decreases in average Medicare fees**, because the supply of services might be curtailed.

In monitoring access for these vulnerable groups it is important to establish patterns of utilization and access in the period before the MFS went into effect.[3] If these patterns are not understood, the effects of the MFS on access to care can not be discerned.

Major issues addressed: The studies conducted for this report are directed at three major policy themes:

A. Did the MFS invoke the kinds of payment changes anticipated:

- With regard to the specialty of physicians serving Medicare patients?
- With regard to the distribution of payments toward management and evaluation services (visits) and away from procedures?

B. Has the MFS presented new barriers to access for vulnerable populations? This is the central question addressed in this report.

C. What have been the impacts of the MFS on physicians' practices?

Data Sets. To address these issues, HCFA is using both administrative and survey data. Medicare's administrative data are particularly valuable because they cover the entire Nation, and contain information for all beneficiaries, providers, and services rendered.

To discern changes in patterns and trends on a timely basis, HCFA developed a monitoring system that produces quarterly data from the administrative data sets. The monitoring system contains three analytical files: (1) a beneficiary-based file to monitor rates of use of physicians' services for the total population, for demographic subgroups, and for geographic areas[4]; (2) a physician/supplier procedure summary file, to monitor aggregate changes in services and Medicare payments, within various physician specialty

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[3] The importance of understanding baseline trends for population subgroups is illustrated by the fact that studies of in-hospital procedures have found differences by race before the MFS went into effect (HCFA, 1990a; HCFA, 1990b; JAMA, 1990). Studies of revascularization procedures have also shown differences by gender before the MFS went into effect (HCFA, 1990a; HCFA, 1990b; Ayanian and Epstein, 1991). Similarly, geographic differences have been observed in the supply of physicians and other providers of care for residents of rural areas compared to urban residents in the period preceding the MFS (Office of Technology Assessment, 1990; Hewitt, 1989). Thus, understanding the effects of the MFS on access to care for vulnerable subgroups of the Medicare population requires an understanding of patterns and trends in the period before the OBRA 1989 physician payment changes were made.

[4] The monitoring system uses a 105 procedure/service classification grouping system based on the HCFA Common Procedure Coding System (HCPCS). The HCPCS codes were grouped by the Urban Institute and HCFA into an analytical classification system, known as BETOS (Berenson-Eggers Type of Service). The BETOS is updated annually to incorporate the annual revisions and expansion of HCPCS.

or supplier designations, across geographic areas, and by place of service; and (3) a physician file for a sample[5] of physicians, to monitor trends in physicians' practices. This file links all Medicare carrier provider numbers with a unique physician identification number (UPIN) to analyze the services rendered by each physician in the sample.[6]

Although Medicare's administrative data sets are broad in scope, they are limited in the amount of information that is available to identify certain vulnerable groups. For example, beneficiaries without supplemental health insurance, or in poor health cannot readily be identified in the ongoing administrative data system.

To remedy these problems, two national surveys are used because they gather more in-depth information about the characteristics of the population. Their major limitations lie in their sample size and in their frequency of collecting data, which restricts the types of analyses and monitoring that can be performed.

The first survey used is the Medicare Current Beneficiary Survey (MCBS), which is sponsored by HCFA and implemented in 1991. The MCBS is especially valuable because it has a supplement each Fall that contains questions that are key to understanding access, such as beneficiaries' health, insurance status, and barriers they may have experienced when care was needed.

The second survey is the National Health Interview Survey (NHIS), sponsored by the National Center for Health Statistics. The NHIS adds to the knowledge available from the MCBS because it contains information about the U.S. population 18-64 years of age not on Medicare. The NHIS has special value because trends for both Medicare and non-Medicare populations can be followed from 1984.

Studies conducted for this report. Eight separate studies were performed. Six of the studies were prepared by HCFA staff researchers, while the remaining two were conducted under a cooperative agreement with the Center for Health Economics Research (CHER). Because each of the studies was designed independently there are some differences across the eight studies in the way the subsets of the Medicare

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[5] The sampling rates vary inversely with the number of licensed physicians in a State, and range upward from 2 percent. The national sample equals over 5 percent of all U.S. physicians.

[6] In 1989, HCFA implemented a national Medicare Physician Identification and Eligibility System (MPIES) registry that uniquely identifies physicians serving Medicare beneficiaries. In the past, it has not been possible to reliably assemble claims of individual physicians because of carrier-specific differences in assigning provider practice identification numbers. Physicians might be assigned more than one designated provider number if they practiced in different settings or if they had more than one designated specialty. Several physicians might have been assigned the same provider number if they practiced in a single-specialty group or clinic. Therefore, the UPIN system, when fully operational, offers the opportunity for monitoring physicians' responses to Medicare's physician payment reform.

population were grouped. The major findings of all of these studies are summarized next.

PART 2. MAJOR FINDINGS

The major findings are summarized according to the three issues that are addressed.

A. Did the MFS invoke the kinds of payment changes anticipated:

- **With regard to the specialty of physicians serving Medicare patients?**
- **With regard to the distribution of payments toward management and evaluation services (visits) and away from procedures?**

Figure 1 illustrates the shift in total Medicare allowed charges between 1991 and 1992, by specialty of the physician.[7] Medicare allowed charges for physicians in primary care rose 13 percent, from $2.976 billion in 1991 to $3.376 billion in 1992. Similarly, allowed charges for physicians in medical specialties rose 3 percent, from $12.204 billion in 1991 to $12.616 billion in 1992. In contrast, allowed charges for physicians in surgical specialties declined 4 percent, from $11.981 billion to $11.491 billion.

Understanding changes by specialty is somewhat complicated by the fact that in 1992 Medicare carriers were encouraged to implement an expanded system of specialty designation codes. A study conducted for HCFA to examine this issue found that 4.5 percent of the physicians changed or redesignated their specialty category around this period.[8] Despite the potential for some distortions resulting from these coding changes, the data clearly indicate a shift in payments by specialty.

Further support that the MFS is stimulating the kinds of changes intended is illustrated by Figure 2, which shows allowed charges by type of service.[9] Figure 2 shows the abrupt shift in the distribution of allowed charges. In the first quarter of 1992, when the MFS went into effect, there was an immediate shift in the proportion of allowed charges that went for visits and consultations relative to the allowed charges for procedures. Figure 2 also shows that these changes have persisted into 1993.

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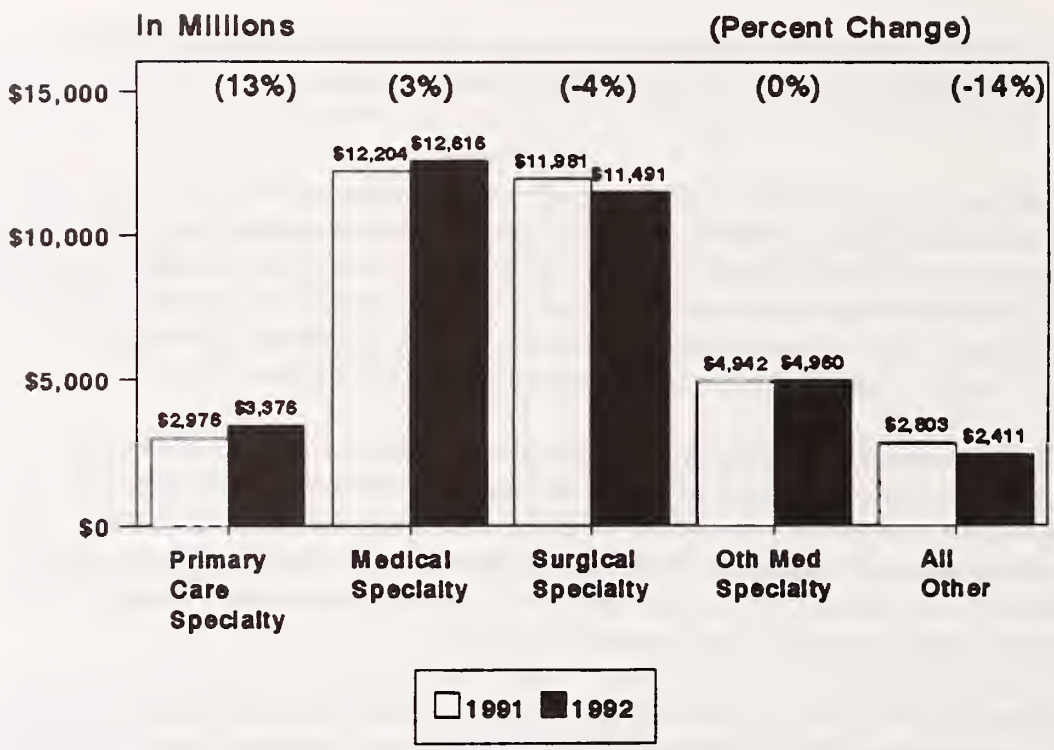
[7] These monitoring data for 1991 and 1992 are considered complete. Allowed charges are based on billings by physicians for all Part B services, not just services paid under the MFS.

[8] Performed by the consulting firm HK Research (1993, July 29).

[9] Reference 1, Appendix II provides information on the procedure/service classification system.

Figure 1

Total Allowed Charges by Specialty: 1991 and 1992

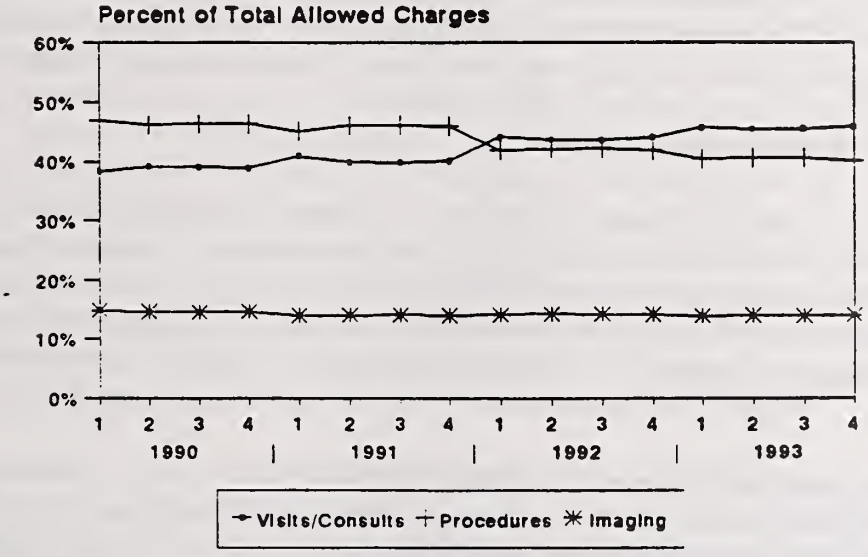


SOURCE: HCFA Part B Monitoring System: HCFA National Claims History File.

Prepared by: Office of Research and Demonstrations, HCFA.

Figure 2

Allowed Charges - MFS Physician Services 1990 to 1993, by Quarter All Medicare Beneficiaries



SOURCES: 1990 and 1991 - 5 percent BMAD; HCFA Part B Beneficiary Monitoring System for 1992 and 1993 (updated through December 1993).

Prepared by: Office of Research and Demonstrations, HCFA.

Detailed information about changes in Medicare allowed charges are provided in Tables 1-5 at the end of this report (see Reference 1, Appendices I and II also).[10] Table 1 shows that total allowed charges for Part B fee-for-service claims (that is, excluding health maintenance organizations (HMOs)) increased only 2.4 percent between 1991 and 1992. Adjusted for the growth in population, the percent increase becomes only 0.7 percent.[11]

Table 2 shows further details about the shifts in Medicare allowed charges, breaking out payments for physicians and non-physicians. These data show that Medicare Part B payments for non-physician services, most of which are not included in the MFS, increased substantially from $8.008 billion in 1991 to $9.088 billion, a 13.5 percent increase. Most of these payments are in the "all other" category, which includes durable medical equipment. This table illustrates that if only allowed charges for physicians services are compared, there was an actual decline in Medicare allowed charges between 1991 and 1992, from $34.906 billion to $34.854 billion -- perhaps the first time this has occurred since Medicare began.

Preliminary data for 1993 (physicians' billed services reported to HCFA through December 31, 1993) are shown in Table 3. These figures indicate that the share of allowed charges for primary care and medical specialties continues to increase, with corresponding declines in the surgical specialties. Thus, the preliminary 1993 data suggest that the changes intended by implementing the fee schedule legislation are continuing.

Table 4 provides patterns of allowed charges by the place (site) where care was received. There has been a continued decline in the proportion of Part B allowed charges for services in the hospital inpatient setting (reflecting in part the decline in surgical procedure allowed charges). These declined from 40.1 percent in 1991 to 35.6 percent in the preliminary data for 1993. The decline also reflects, in part, the shift to the outpatient setting for some procedures. This trend has been noted in earlier studies of the impact of the Medicare hospital prospective payment system.

Table 5 provides further details on changes in allowed charges for procedures between 1990 and 1993. Between 1990 and 1991, allowed charges increased 8.8 percent; between 1991 and 1992, allowed charges declined 9.5 percent. (Because data for 1993 are preliminary, the percent change was not computed.) As shown, allowed charges for nearly every procedure declined between 1991 and 1992.

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[10] These allowed charge estimates for 1991 and 1992 may differ from HCFA's actuarial estimates for several reasons, including differences in scope of services examined and the time period used in the calculations.

[11] The magnitude of these increases reflect, in part, the approximately 3 percent reduction in 1992 payments for MFS services resulting from the baseline adjustment applied in developing the 1992 conversion factor.

As noted earlier the implementation of the MFS was expected to invoke a number of changes by area. For an analysis of the impact of the MFS by State see Reference 1, Appendix I.

In summary, changes in allowed charges by type of service, by physician specialty, and by site of care provide strong indications that the MFS stimulated the kinds of changes that were intended and expected. The next section addresses the impact of the MFS on access to care.

B. Has the MFS presented new barriers to access for vulnerable populations?

This issue is central to this report and is explored using the five access measures discussed in Part 1. An important related question is whether the MFS reduced barriers to care for vulnerable populations.

At the outset, it should be noted that most of the findings that are presented next cannot directly address the impact of the MFS on increasing or reducing access to care. For some of the studies, only baseline data were available at the time this report was being prepared; for other analyses, data are available for only a single point in time before the MFS was introduced. And, for the analysis of the influenza vaccine, only post-MFS data can be examined because the service was not covered in the period preceding the MFS. Nonetheless, despite these imperfect time series, all of these analyses add depth to our understanding of access to care for vulnerable population groups.

Access measure 1: Use of ambulatory visits. One of the most important indicators used to track access to care is the rate of physician visits per person. This is considered an important measure because it is seen as an indicator of gaining entrance to the health care system. (When data are shown from the Part B monitoring system, rates can be given on a quarterly basis; when survey data are used, only annual rates are given.)

Figures 3-7 illustrate the findings from the surveillance of ambulatory physician visits for five vulnerable subgroups of the Medicare population. Ambulatory visits include office, emergency room, home and nursing home visits as well as some specialty services.

Figure 3 shows quarterly ambulatory visit rates for three age groups in the population 65 years of age and over. All three age groups showed similar trends from 1990 through the first half of 1993, indicating that, to date, persons 85 years of age and over have not faced any new barriers to care under the MFS.

Figure 4 shows trends by race. While ambulatory visit rates each quarter were consistently higher for white beneficiaries compared to black beneficiaries, the MFS does not appear to have increased the differences that already existed before the MFS went into effect. However, it is clear that research needs to be done to understand whether

Figure 3

Ambulatory Physician Visits per 1,000 Persons
1990 to 1993, by Quarter, by Age
Medicare Beneficiaries Ages 65 and over

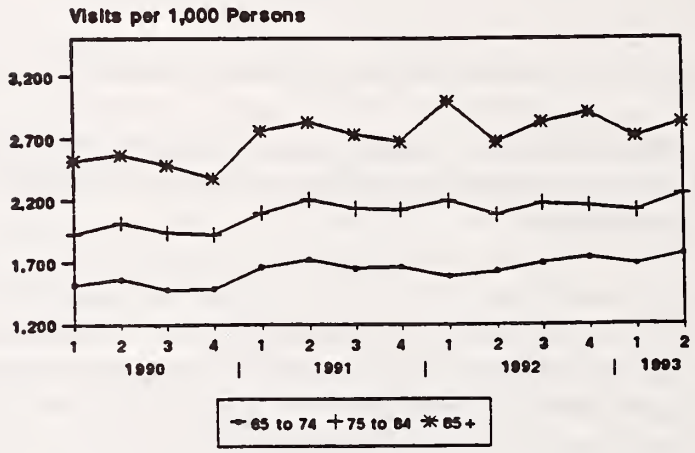
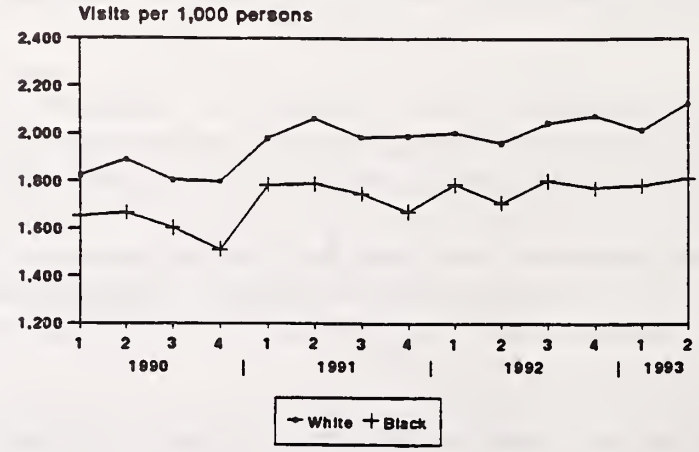


Figure 4

Ambulatory Physician Visits per 1,000 Persons
1990 to 1993, by Quarter, by Race
Medicare Beneficiaries Ages 65 and over



SOURCES: 1990 and 1991 - 5 percent BMAD; HCFA Part B Beneficiary Monitoring System for 1992 and 1993 (updated through December 1993).

Prepared by: Office of Research and Demonstrations, HCFA.

the differences shown in ambulatory visit rates reflect primarily barriers by race or barriers by socioeconomic status.

Figure 5 shows ambulatory visits for four broad geographic groupings: beneficiaries residing in (1) core counties of metropolitan areas of 1 million or more population; (2) other metropolitan counties; (3) areas adjacent to metropolitan areas; and (4) areas nonadjacent to metropolitan areas. The highest visit rates are for beneficiaries residing in metropolitan areas. The lowest visit rates are for beneficiaries in non-metropolitan areas, whether or not they are adjacent to metropolitan areas. A comparison of these rates indicates that over time, the disparity increased slightly in 1991 and 1992. However, in the first two quarters of 1993 the disparity lessened a little.

Figure 6 shows ambulatory visit rates for areas expected by 1996 to have had (1) the largest decreases in average prices (10-20 percent); (2) "no change" (within plus or minus 3 percent); (3) moderate decreases (4-9 percent); and (4) largest increases (4-12 percent). As shown, ambulatory visit rates continue to be highest in areas expected by 1996 to have had relatively large decreases in allowed charges, indicating that the MFS to date has not presented barriers to care in these areas.

Figure 7 shows trends in ambulatory visit rates for Dade County (Florida), Los Angeles County (California), and Manhattan (New York). These three metropolitan areas are expected to have had the largest decreases in prices by 1996. Compared to national use rates, residents of Dade County had 62 to 68 percent more ambulatory physician visits per 1,000 throughout the 1990 to 1993 time period. Similarly, residents of Los Angeles County maintained use rates at about 40 percent over the national average. Use rates in Manhattan were about 33 to 37 percent higher than nationally in 1990 through 1992. However, in the first half of 1993, these rates dropped slightly to 27 percent over the national average. Further trend data will be necessary to determine if this is a short term deviation or a change in patterns of use.

To monitor access to physicians' care for several other vulnerable populations, the Center for Health Economics Research (CHER) linked Medicare data with 1990 census data and with information on health professional shortage areas. Table 6 at the end of this report shows details from that analysis for 1991. At the time this report was being prepared, the analysis of changes between 1991 and 1992 was not yet completed. However, the findings for 1991 show that persons residing in areas designated as health professional shortage areas had lower outpatient visit rates compared to those not living in shortage areas. Persons living in poor areas (particularly, poor rural areas) had lower outpatient visit rates than those living in nonpoor areas while rural residents tended to have lower visit rates in general (except for emergency room visits) compared to urban residents. We will continue to analyze these patterns in the next report.

To track access to care for beneficiaries without supplemental insurance, the National Health Interview Survey (NHIS), sponsored by the National Center for Health Statistics, was used. Figure 8 shows average annual number of visits for beneficiaries with

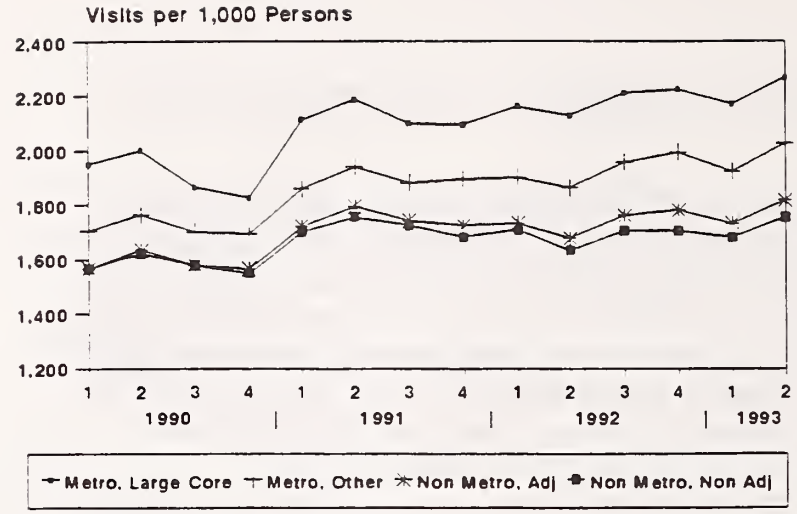


Figure 5

Ambulatory Physician Visits per 1,000 Persons by Population Density, by Quarter

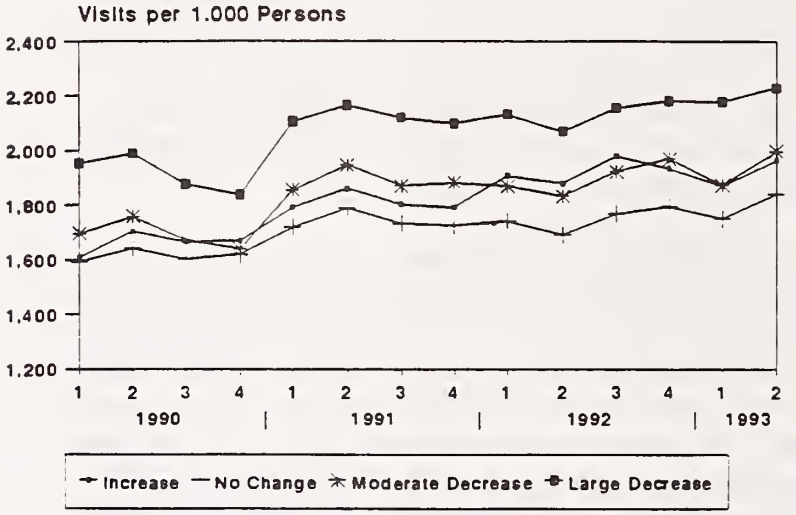


Figure 6

Ambulatory Physician Visits per 1,000 Persons by Ex Ante Impact Area, by Quarter

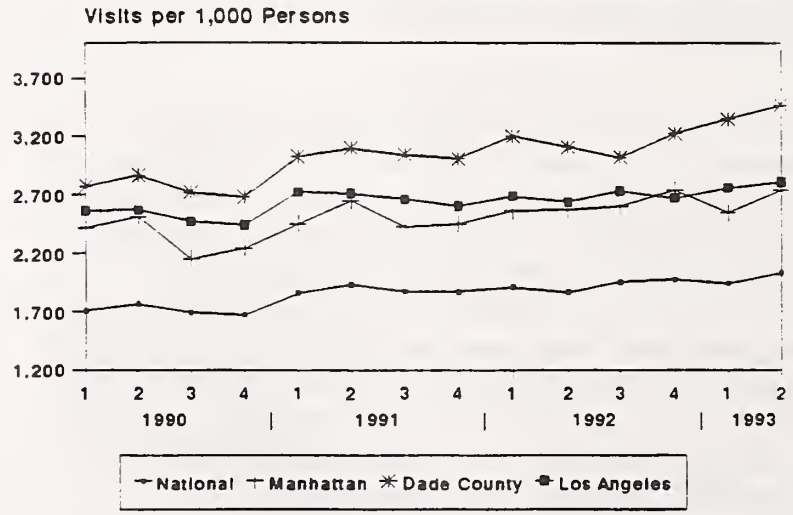


Figure 7

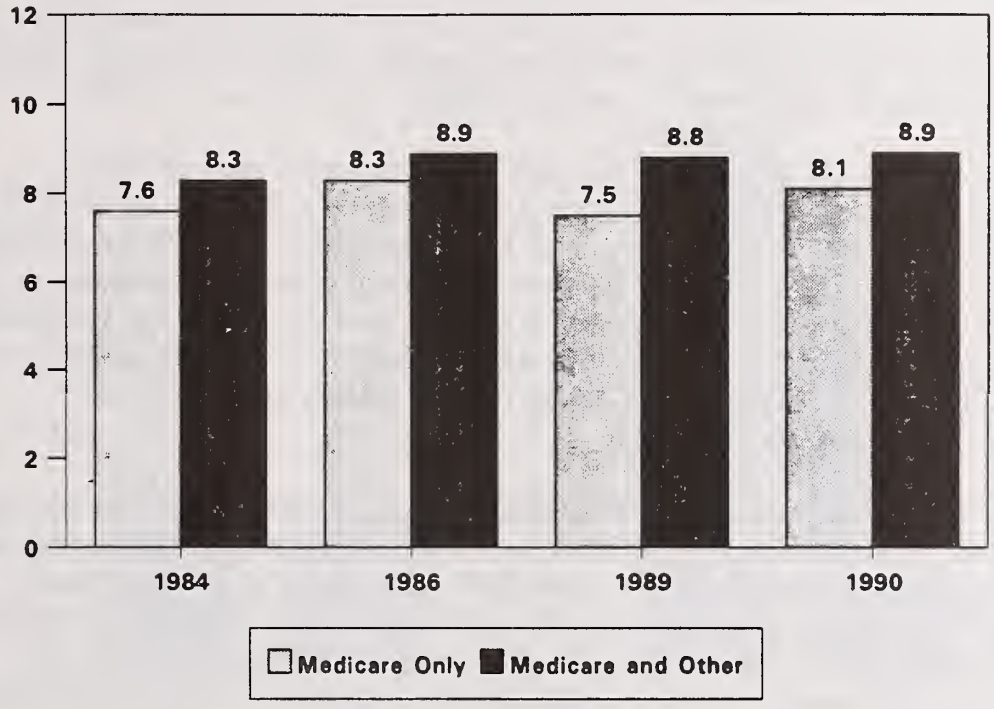
Ambulatory Physician Visits per 1,000 Persons by County, by Quarter

SOURCES: 1990 and 1991 - 5 percent BMAD; HCFA Part B Beneficiary Monitoring System for 1992 and 1993 (updated through December 1993).

Prepared by: Office of Research and Demonstrations, HCFA.

Figure 8

Physician Visits per Person per Year by Insurance Coverage: 1984 through 1990



SOURCE: National Health Interview Survey, National Center for Health Statistics.

Prepared by: Office of Research and Demonstrations, HCFA.

Medicare coverage only, compared to those with Medicare and private supplemental health insurance coverage. Each year, from 1984 through 1990 (the latest data available for this analysis), persons without supplemental policies have had fewer physicians' visits than persons with supplemental polices -- even though the NHIS shows that persons without supplemental policies have had consistently greater levels of activity limitations. Over time, these differences in utilization have not declined. These findings support the hypothesis that Medicare beneficiaries without additional insurance coverage face barriers to care from out-of-pocket costs. At the same time, Medicare beneficiaries with additional coverage may be receiving unnecessary services. Table 7 at the end of this report and Reference 1, Appendix VI provide additional details from the NHIS.

Table 7 also provides information over the period 1984-90 about the role health insurance plays in eliminating barriers to care for the general population aged 18-64 who are not on Medicare. Compared to those with health insurance, fewer of the uninsured had a physician visit during the year. The mean number of visits per person per year was lower and this pattern has not improved over time. In 1990, in the age group 18-64, only 60 percent of the uninsured saw a physician compared to 75 percent of the privately insured, even though the uninsured had higher rates of activity limitations (see Reference 1, Appendix VI).

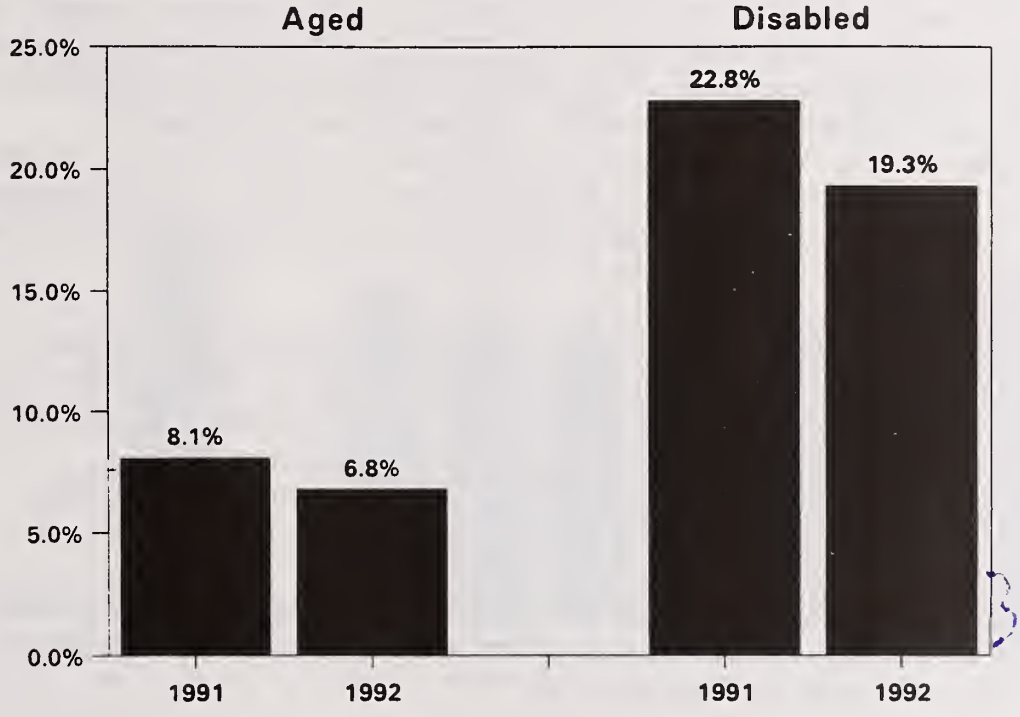
Access measure 2: Percent with a health problem and not receiving care. One of the most direct indicators of access to physicians' care is having a health problem and not receiving care. Figure 9 shows data from the Medicare Current Beneficiary Survey (MCBS) for 1991 and 1992 for both the aged and disabled under Medicare. Compared to beneficiaries 65 years of age and over, the disabled had a higher proportion of persons who reported having a health problem but not receiving any care in the previous year. This finding is consistent with the fact that the disabled population are more likely than the aged to face greater barriers to care because of more chronic illnesses and continuing care needs.

Figure 9, however, indicates improvement for both population groups for this indicator during the two-year period. (Because the MCBS began in 1991, we do not have enough data to determine if these findings are part of an improving trend or if they can be associated with the introduction of the MFS.) Table 8 at the end of this report and Reference 1, Appendix V show further details from this study. In particular, it shows that patient satisfaction generally increased for both the aged and disabled along four dimensions: quality of medical care; availability of medical care; ease of getting to a physician; and costs.

Access measure 3: Use of preventive services. Medicare covers four preventive services: pneumococcal pneumonia and influenza vaccines, Pap tests, and mammography. The CHER study of vulnerable Medicare populations cited earlier traced the use of three of these preventive services.

Figure 9

Percent of Persons Reporting a Health Problem and Not Receiving Care in Previous Year



SOURCE: Medicare Current Beneficiary Survey, Round 1 and Round 4 Data; Medicare NCH Claims for MCBS Population

Prepared by: Office of Research and Demonstrations, HCFA.

Figure 10 shows differences in the rate of mammography use for 1991. It is important to note that every vulnerable subgroup identified in the study had lower rates of use of mammograms than Medicare beneficiaries overall.

Table 9 at the end of this report provides some preliminary information from Medicare administrative data on the use of the influenza vaccine, which became a covered service in 1993. Two HCPCS codes are used to bill for this service: one for administration and the other for the vaccine itself. At the time this report was being prepared, records were available for the administration component only. Although influenza immunizations are likely to be undercounted by as much as 50 percent, an examination of the billings for administration only is instructive (see Table 9). Among the aged and disabled populations, differences in the rate of influenza immunizations were striking, with rates for black beneficiaries less than half those for white. When complete data are available for 1993, the rates for both groups are expected to be considerably greater, but it is very likely that large differences by race will still be found.

Table 10 of this report provides further information for 1991 on Pap tests and the pneumococcal pneumonia immunizations from the special study by CHER. For Pap tests, rates were dramatically lower for black beneficiaries, for the dually eligible, and for persons living in health professional shortage areas and in poor areas. For pneumococcal pneumonia immunization, rates were also lower for these vulnerable groups, except for those residing in HPSAs.[12]

These data provide evidence that the vulnerable population groups we have identified are at-risk of not receiving covered preventive services -- services that were included under Medicare to make them affordable to all.

Access measure 4: Hospitalizations for ambulatory care sensitive conditions. The special study by CHER examined hospitalization rates for 24 conditions that experts identified as ambulatory care sensitive (ACS) conditions (see Reference 1, Appendix IV). Patients with these conditions are considered to be at increased risk of hospitalization for these conditions if they are without appropriate and continuing ambulatory care. Higher hospitalization rates for these conditions are seen as indicators that there may be barriers to care.

Figure 11 shows the combined hospital admission rate in 1991 for these 24 conditions for the vulnerable groups that were studied. In 1991, the national rate was 61.4 admissions per 1,000 beneficiaries. Each of the vulnerable groups studied had higher rates of hospitalizations.

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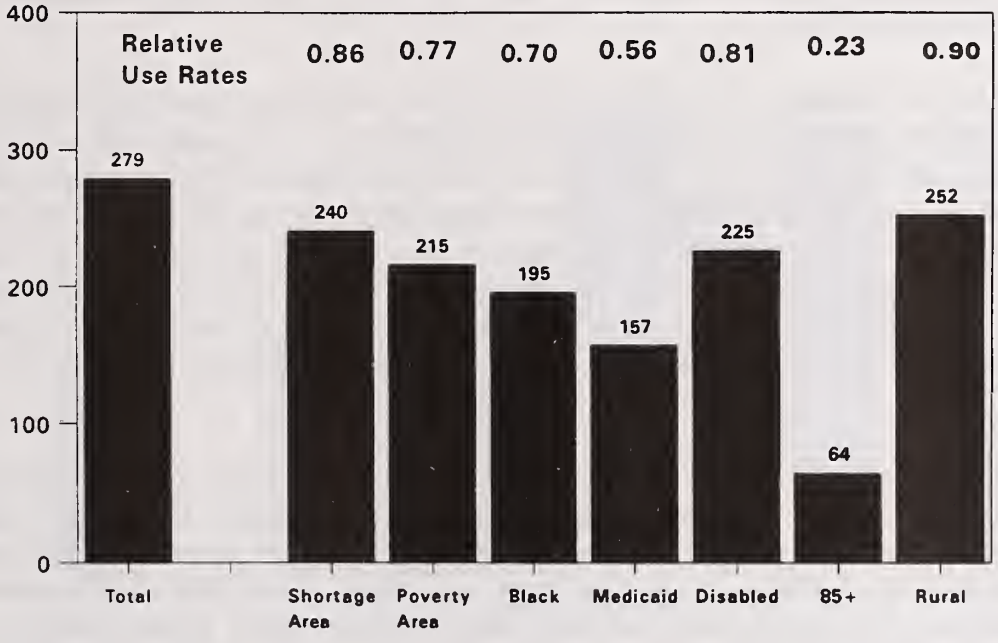
[12] These differences are difficult to evaluate fully at this time for several reasons, including the incompleteness of Medicare administrative data. See Reference 1, Appendix IV for additional explanations.

Figure 10

Mammography Use for Vulnerable Population Groups: 1991 Rate per 1,000 Persons



SOURCE: Part B Claims and denominator file for a sample of Medicare Beneficiaries: 1991

Prepared by: Office of Research and Demonstrations, HCFA.

Table 11 at the end of this report provides further details about hospitalization rates for ACS conditions. The table shows rates of hospitalization for four specific Ambulatory Care Sensitive conditions (bacterial pneumonia, asthma, congestive heart failure, and diabetes with complications) and the rate for all 24 ACS conditions, combined. For all 24 ACS conditions combined, admission rates were significantly higher for all of the vulnerable groups, except for residents of rural health professional shortage areas. The differences in the absolute magnitude of the rates are often very large. The hospital admission rate for beneficiaries living in poor urban areas (88.2 admissions per 1,000 enrollees) was almost 50 percent greater than the rate for beneficiaries in nonpoor areas (59.9 admissions per 1,000).

It is important to consider that beneficiaries living in poor urban areas had nearly a 50 percent higher rate of admissions for ACS conditions, even though their outpatient physician visit rate was not lower than the rate for beneficiaries living in nonpoor areas. Similarly, Medicaid eligible beneficiaries had higher rates of hospital admissions for ACS conditions even though their outpatient visit rate was higher than those not on Medicaid (Table 6). These findings suggest that Medicare beneficiaries who live in poor areas or are eligible for Medicaid are likely to be in poor health and may need more continuous and appropriate ambulatory care if they are to avoid hospitalizations for these ACS conditions.

Access measure 5: Referral sensitive procedure rates. For this measure, the analysis focuses on one vulnerable subgroup -- black beneficiaries.[13] Figure 12 shows procedure rates for coronary artery bypass graft (CABG) and percutaneous transluminal coronary angioplasty (PTCA) in 1991 and 1992 for black and white beneficiaries. For each of these procedures, the rate for white beneficiaries was substantially higher both years, although the ratio of the rate for black beneficiaries to the rate for white beneficiaries increased in 1992 over 1991, indicating that the gap has narrowed a little.

Table 12 at the end of this report shows additional information about procedure rates in 1990 and 1992 for 18 major procedures, based on Medicare hospital administrative data. These procedures were selected for their frequency, the lack of agreement about their outcomes and effectiveness, or their costliness. Included are newer, referral sensitive procedures, such as PTCA, CABG surgery, and total knee replacement (TKR) and traditional procedures, such as appendectomy and inguinal hernia repair. Rates of these procedures, as well as their 30-day post-admission death rate, are shown.

In 1990 and 1992, for each of the 18 procedures being monitored, the rate for black beneficiaries was lower than for white beneficiaries, although the disparities vary according to the procedure. As an example, for total knee replacement in 1990, the

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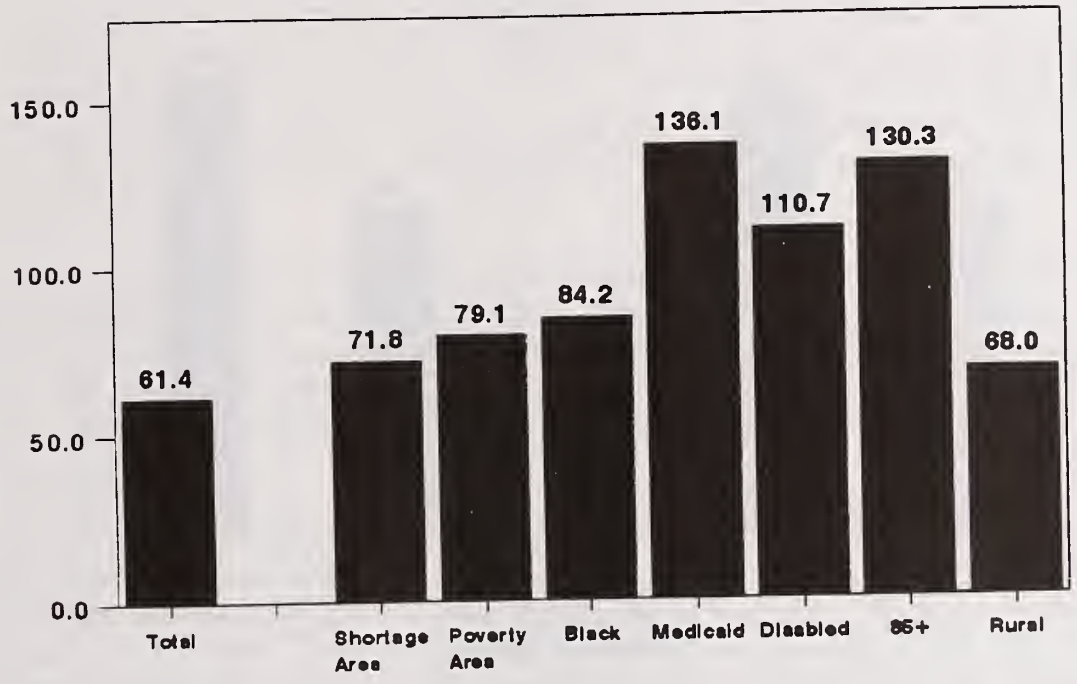
[13] The only other vulnerable subgroup that can be identified in this analysis is beneficiaries residing in rural areas. Procedure rates have not been found to be consistently higher or lower for rural residents compared to those residing in MSAs.

Figure 11

Ambulatory Care Sensitive Admission Rates for Vulnerable Population Groups: 1991 Rate per 1,000 Persons

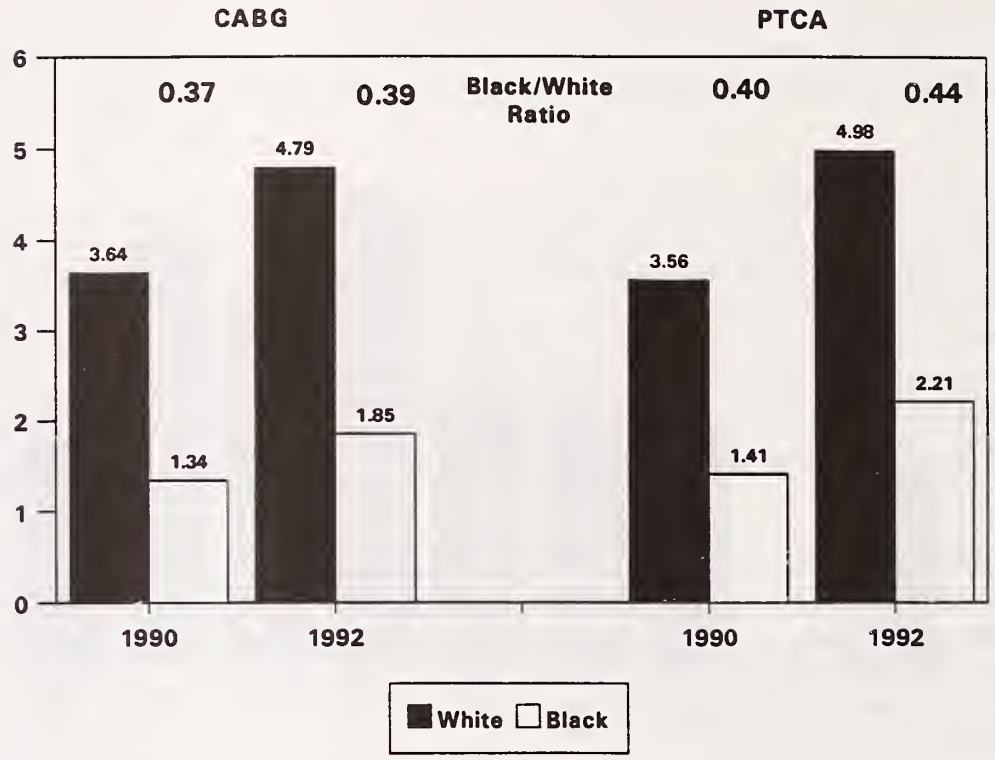


SOURCE: Part A Claims and denominator file for a sample of Medicare Beneficiaries: 1991

Prepared by: Office of Research and Demonstrations, HCFA.

Figure 12

Heart and Vascular Procedures
Rate per 1,000 Beneficiaries, by Race



SOURCE: Data from HCFA's BDMS MEDPAR files.

Prepared by: Office of Research and Demonstrations, HCFA.

ratio of the rate for black beneficiaries compared to white beneficiaries was only 0.62, while for prostatectomy the corresponding ratio was 0.91.

In 1992, the first year that the MFS was in effect, the rate of the heart and vascular procedures increased for both races; this was also true for the orthopedic and back procedures. For most of these procedures, the rate for black beneficiaries increased more than for white beneficiaries.

Except for the procedures performed for hip fracture, the 30-day post-admission death rates continued to be higher for black beneficiaries than for white beneficiaries. This may indicate, that on average, black beneficiaries who undergo these procedures are more severely ill than white beneficiaries. There also may be differences in the quality of care between the two groups. (See Reference 1, Appendix III for additional information.)

The preponderance of evidence relating to access to these hospital procedures indicates that the MFS created no new barriers by race. This finding is perhaps even more heartening in light of the findings that in 1992, under the MFS, total allowed charges were lower than in 1991 for nearly all of the procedure groups being monitored (see Table 5). Nonetheless, substantial differences by race continue to exist in the use of these procedures.

In summary, the monitoring of these five access measures shows no evidence to-date that the MFS has raised new barriers to physicians' care. However, these analyses suggest that there are persistent problems -- with varying facets to them -- relating to access to physicians' care for many of the vulnerable populations we have identified. (See Reference 1, Appendix V about perceptions of barriers, satisfaction with care, and attitudes toward the usual source of care.)

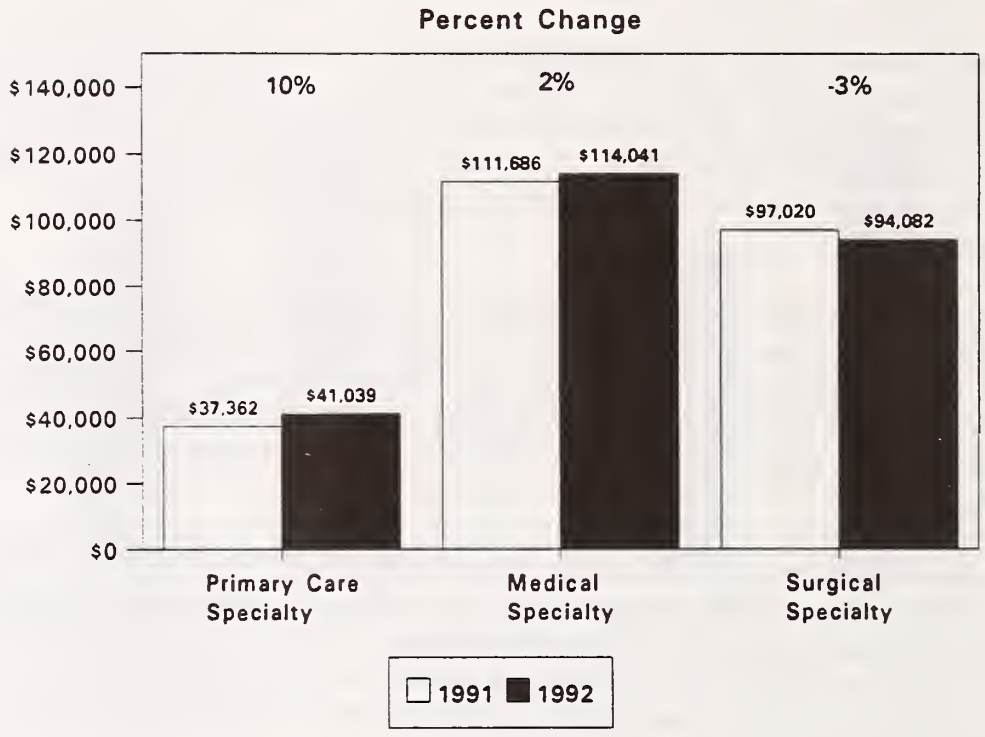
C. What have been the impacts of the MFS on physicians' practices?

Two studies are ongoing to monitor changes in physicians' practices and supply. The first study uses the Part B monitoring file that contains a sample of physicians. Linked to each physician are all of the Medicare claims for services provided by that physician. The study examined data for 1991 and 1992 for 18 States and focused on a number of key issues, in particular determining changes that may have occurred in the number of Medicare patients treated and in average allowed charges.

Figure 13 illustrates changes in average allowed charges per physician by specialty between 1991 and 1992. For primary care specialties, average allowed charges per physician between 1991 and 1992 increased 10 percent, from $37,362 to $41,039. The increase was 2 percent for medical specialties, from $111,686 to $114,041. For physicians in surgical specialties average allowed charges per physician fell 3 percent, from $97,020 to $94,082.

Figure 13

Mean Allowed Charges per Physician by Specialty: 1991 and 1992



SOURCE: HCFA Part B Monitoring System: HCFA National Claims History Physician Sample File.

Prepared by: Office of Research and Demonstrations, HCFA.

Tables 13 and 14 show additional information from this study. Mean Medicare caseload for the 7,361 physicians in the sample and changes in caseload between 1991 and 1992 are shown in Table 13. As might be expected, Medicare caseload varied considerably by specialty of the physician. In 1991, the average number of patients per physician for primary care physicians was 277 patients, for limited licensed practitioners, 118 patients, and for radiologists, 1,373 patients. The mean caseloads for most specialties increased (between 1991 and 1992). Surgery specialists treated on average 5 percent more patients and primary care physicians treated 4 percent more. (See Reference 1, Appendix VIII for the complete study.)

Physician supply is also being monitored, in terms of physician to population ratios, by specialty and by geographic area (see Reference 1, Appendix VII). Although Medicare payment reform is not likely to affect the supply of physicians for several years to come, if at all, it is still valuable to understand current supply trends because they affect access to and utilization of services. Table 15 shows trends in the number of primary care and medical specialists per 100,000 Medicare beneficiaries for metropolitan and nonmetropolitan areas.

As expected, the ratio of primary care and medical specialists per 100,000 beneficiaries is considerably higher in metropolitan areas compared to nonmetropolitan areas. Moreover, differences increased during the entire 1984-92 period. In 1984, the physician to population ratio in metropolitan areas was 162 percent higher than in nonmetropolitan areas (385 per 100,000 and 1,010 per 100,000, respectively). By 1992, this difference had increased to 191 percent, indicating a pressing need to continue to monitor the supply of physicians across geographic areas.

PART 3. DISCUSSION and CONCLUSIONS

OBRA 1989 requires the Secretary of the Department of Health and Human Services to include as part of this annual Medicare physician payment report recommendations:

(i) addressing any identified patterns of inappropriate utilization,

(ii) on utilization review,

(iii) on physician education or patient education.

(iv) addressing any problem of beneficiary access to care made evident by the monitoring process, and

(v) on such matters as the Secretary deems appropriate.

This report also provides an overview of the extensive activities in HCFA and in the Agency for Health Care Policy and Research (AHCPR) to address patterns of inappropriate utilization, utilization review, and physician and patient education (see

Appendix IX). AHCPR's medical treatment effectiveness program (MEDTEP) and HCFA's peer review organizations (PRO) program are expected to result in more and better knowledge about effective treatments to help guide physicians and patients to select the most appropriate, effective, and efficient care. Toward this end, a Federal workgroup has been established that includes AHCPR and HCFA along with representatives of the Department of Veterans Affairs and the Department of Defense to support the current efforts to improve medical review methods and procedures.

With regard to the statute's iv and v (above) the following conclusions are offered.

Conclusions

From the broad perspective taken for monitoring utilization and access to care for this report, as well as our knowledge of the Medicare program and other survey data, there are five principal conclusions that can be drawn:

1. The Medicare physician fee schedule has produced the kinds of shifts in payments that were anticipated, by type of service, physicians' specialty, and geographic area. In particular, the introduction of the fee schedule was accompanied by a relative increase in allowed charges for visits and consultations and a relative decrease in allowed charges for procedure-based services.

2. For the vulnerable populations studied, no new barriers to care were found although there are clear indications that many population groups continue to face barriers to care.

   The kinds of the studies described in this report will be updated with more recent data for the next report. It is expected that new analyses will also be undertaken to provide additional insights. For example, there are plans to link 1990 zip code level socioeconomic data from the Census Bureau with Medicare administrative data. The linked data will be used to aggregate areas by socioeconomic status (SES) to analyze whether differences in utilization of certain procedures signify racial barriers or barriers related to SES.

3. Improved health insurance coverage is an important factor in increasing access to care.

   The history of the Medicare program shows that the enactment of Medicare went a long way toward providing access to physicians' and hospital services for the elderly population in the Nation. In 1967, the first full year of the Medicare program, Medicare data show that beneficiaries of races other than white were only 71 percent as likely to be admitted for hospital services as white beneficiaries. Over time, the hospital discharge rate for black beneficiaries reached the same level as that for white beneficiaries. Presently, the hospital discharge rate for black beneficiaries is about 10 percent greater than for white

beneficiaries. This trend suggests that many of the barriers to physicians' and inpatient hospital care have declined.

Based on the NHIS, which is used in this report to compare patterns and trends in the Medicare population with those found in the population under age 65, the analyses show that health insurance coverage is an important factor in providing access to care for persons of all ages. Other National surveys also confirm that there is a consistent relationship between insurance coverage and access to health care. Taken together, our National surveys and the Medicare experience suggest that efforts to improve health insurance coverage for persons under age 65 will very likely go a long way toward ameliorating problems relating to access to care.

4. Additional understanding is needed of barriers to care for vulnerable populations in order to further improve their access to care.

   As observed throughout this report, even with Medicare coverage, problems exist for vulnerable subgroups. Black Medicare beneficiaries, for example, have substantially lower rates of use of the newer procedures performed in the hospital (such as CABG and hip and knee replacements) compared to white Medicare beneficiaries. At the same time, a number of vulnerable subgroups were found to have higher hospital admission rates for ambulatory-care sensitive conditions (such as asthma and bacterial pneumonia) compared to non-vulnerable groups. Thus, we believe that additional understanding is needed of barriers to care for vulnerable subgroups if we are to further improve access to care for these populations.

5. Effective monitoring of access to care requires the development of more sensitive measures of access as well as better data sets and linkages to other information.

   Understanding differences in utilization of health care services requires increased information about health status and about the incidence and prevalence of illness across population groups and reliable and ongoing data sets and analyses to monitor access to care.

Summary

In summary, the implementation of the Medicare fee schedule is associated with the types of payment changes expected; there is no evidence that the implementation of the Medicare fee schedule resulted in new barriers to care. Moreover, our 1993 Report to Congress entitled, "Changes in Physician Participation, Assignment, and Extra Billing in the Medicare Program During Calendar Year 1992," showed that during the first year of the Medicare fee schedule the assignment rate increased; and on unassigned claims, the extra billing amounts decreased (HCFA, 1994). There are no recommendations to offer at this time.

ACKNOWLEDGMENTS

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This report, summarizing the individual analyses, was written by Marian Gornick. Paul Eggers prepared the figures. Cheryl Hickman was responsible for the preparation of the manuscript.

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   Appendix III - McBean, A. Marshall: Monitoring Part A.

   Appendix IV - Mitchell, Janet B.: Impact of the Medicare Fee Schedule on Access to Physician Services.

   Appendix V - Rosenbach, Margo L. and Khandker, Rezaul: Changes in Utilization, Access, and Satisfaction with Care Among Noninstitutionalized Medicare Beneficiaries.

   Appendix VI - Mentnech, Renee M.: A Baseline Analysis of Utilization and Access from the National Health Interview Survey, 1984-1991.

   Appendix VII - Kucken, Lawrence E.: Trends in Physician Supply.

   Appendix VIII - Meadow, Ann: Access to Care Before and After Fee Schedule Implementation: A Physician-Based Analysis.

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Table 1. Medicare Part B fee-for-service claims: Allowed charges by type of service, 1991 and 1992

	Total	Medical Visits and Consultations	Surgery, Rad. Ther., Anesthesia & Assistants	X-ray and Lab Tests	All Other
			Allowed charges (in millions)		
Year					
1992	$43,942	$14,926	$13,301	$8,785	$6,930
1991	42,916	13,885	14,116	8,727	6,186
Percent change					
Overall	2.4	7.5	-5.8	0.7	12.0
Adjusted for Changed Population	0.7	5.7	-7.3	-1.0	10.2

Sources: - HCFA Part B Monitoring System: Allowed charge from HCFA National Claims History File.
- Population information from June 30 Medicare Part B Enrollment Files.
Prepared by : Office of Research and Demonstrations, HCFA.

Table 2. Medicare Part B fee-for-service claims: Allowed charges by type of service and physician/supplier specialty category, 1991 and 1992

	Year	Total	Medical Visits and Consultations	Surgery Rad. Ther., Anesthesia & Assistants	X-ray and Lab Tests	All Other
		Allowed charges (in millions)				
Total	1992	$43,942	$14,926	$13,301	$8,785	$6,930
	1991	42,915	13,885	14,116	8,727	6,186
Non-Physician	1992	9,088	153	351	2,370	6,214
	1991	8,008	230	361	2,051	5,366
Supplier	1992	5,668	63	20	167	5,418
	1991	5,021	42	12	193	4,774
Facility/Lab	1992	2,886	28	51	2,192	615
	1991	2,557	137	103	1,848	469
Practitioner	1992	534	62	280	11	181
	1991	430	51	246	10	123
Physician	1992	34,854	14,773	12,951	6,415	715
	1991	34,906	13,655	13,375	6,676	820
Primary Care Specialties	1992	3,376	2,658	232	459	27
	1991	2,976	2,237	227	479	33
Medical Specialty	1992	12,616	7,879	1,982	2,233	522
	1991	12,204	7,275	2,123	2,291	515
Surgical Specialty	1992	11,491	2,835	7,978	631	47
	1991	11,981	2,620	8,651	605	105
Other Medical Specialty	1992	4,960	155	1,973	2,792	40
	1991	4,942	145	1,867	2,875	55
Clinic/Unknown	1992	1,244	620	329	259	36
	1991	1,680	800	453	378	49
Chiropractor, Optometrists & Podiatrists	1992	1,167	625	457	42	43
	1991	1,123	577	432	48	66

Source: HCFA Part B Monitoring System: HCFA National Claims History File.
Prepared by: Office of Research and Demonstrations, HCFA.

Table 3. Medicare Part B fee-for-service claims: Allowed charges by physician specialty category: 1991, 1992, and preliminary 1993

	Allowed Charges (millions)	Percent of Total
All Physicians		
1993 preliminary	$32,040	100.0
1992	34,854	100.0
1991	34,906	100.0
Primary Care Specialties		
1993 preliminary	3,332	10.4
1992	3,376	9.7
1991	2,976	8.5
Medical Specialties		
1993 preliminary	11,989	37.4
1992	12,616	36.2
1991	12,204	35.0
Surgical Specialties		
1993 preliminary	10,442	32.6
1992	11,491	33.0
1991	11,981	34.3
Other MD Specialties		
1993 preliminary	4,297	13.4
1992	4,960	14.2
1991	4,942	14.2
Clinics/Unknown		
1993 preliminary	902	2.8
1992	1,244	3.6
1991	1,680	4.8
Chiropractors, Optometrists, and Podiatrists		
1993 preliminary	1,078	3.4
1992	1,167	3.3
1991	1,123	3.2

Source: HCFA Part B Monitoring System: HCFA National Claims History File.
Prepared by: Office of Research and Demonstrations, HCFA.

Table 4. Medicare Part B fee-for-service claims: Allowed charges for physician services by place of service, 1991, 1992 and preliminary 1993

Place of Service	1991		1992		Preliminary 1993	
	Amount (millions)	Percent	Amount (millions)	Percent	Amount (millions)	Percent
All	$34,906	100.0	$34,854	100.0	$32,040	100.0
Office	13,677	39.2	13,940	40.0	13,791	43.0
Home	158	0.4	146	0.4	117	0.4
Hospital Inpatient	13,986	40.1	13,210	37.9	11,393	35.6
HOPD or ER	5,587	16.0	5,465	15.7	4,979	15.5
ASC	493	1.4	669	1.9	698	2.2
Nursing Home	518	1.5	677	1.9	649	2.0
All Other	488	1.4	747	2.1	413	1.3

Notes: HOPD = Hospital Outpatient Department
ER = Emergency Room
ASC = Ambulatory Surgical Center

Source: HCFA Part B Monitoring System: HCFA National Claims History File.
Prepared by: Office of Research and Demonstrations, HCFA.

Table 5: Medicare Part B fee-for-service claims: Allowed charges for physician services covered by the Medicare fee schedule for procedures: 1990-1993

Service category	1990	1991	1992	1993[1]	1990-91	1991-92
	Allowed charges (in millions)				Percent Change	
Total	$13,902	$15,132	$13,690	$12,067	8.8	-9.5
Major Procedure: General	1,704	1,690	1,496	1,273	-0.8	-11.5
Breast	70	71	59	51	1.4	-17.6
Colectomy	182	172	148	131	-5.4	-14.1
Cholecystectomy	142	90	62	48	-36.4	-30.8
TURP	233	221	161	132	-5.1	-26.9
Hysterectomy	45	51	53	44	14.4	2.2
Disk Surgery	151	170	164	146	12.5	-3.3
Other	881	914	848	721	3.7	-7.2
Major Procedure: Cardiovascular	1,811	1,890	1,773	1,553	4.3	-6.2
CABG	569	549	493	424	-3.5	-10.2
Aneurysm	80	76	64	57	-4.4	-16.5
Thromboendarterectomy	76	88	81	73	15.8	-8.4
PTCA	163	220	216	188	34.5	-1.9
Pacemaker	130	123	110	94	-5.0	-10.9
Other	793	833	810	716	5.0	-2.8
Major Procedure: Orthopedic	1,009	1,069	1,001	914	5.9	-6.3
Hip Fracture Repair	239	245	229	202	2.5	-6.5
Hip Replacement	234	239	201	180	2.1	-16.1
Knee Revision	242	271	262	248	11.9	-3.3
Other	295	314	310	284	6.7	-1.3
Major Procedure: Eye	2,527	2,930	2,530	2,205	15.9	-13.7
Corneal Transplant	43	45	36	32	4.1	-18.5
Cat Rem/Lens Insert	1,579	1,813	1,584	1,351	14.9	-12.7
Retinal Detachment	66	72	59	52	8.3	-17.7
Treatm Retinal Lesions	172	188	147	155	9.0	-21.7
Other	667	812	704	615	21.8	-13.4
Ambulatory Procedures:	1,164	1,286	1,144	1,018	10.5	-11.0
Skin	446	501	452	397	12.2	-9.8
Musculoskeletal	178	199	173	150	11.6	-13.1
Hernia Repair	81	77	64	59	-5.4	-16.3
Lithotripsy	22	22	20	19	-1.3	-9.1
Other	436	487	435	394	11.8	-10.7
Minor Procedures:	1,181	1,348	1,406	1,336	14.1	4.3
Skin	586	648	699	690	10.5	7.9
Musculoskeletal	178	198	190	180	11.4	-4.4
Other	416	502	517	465	20.5	3.1
Oncology	618	719	799	710	16.3	11.1
Radiation Therapy	526	600	685	590	14.1	14.1
Other	92	119	114	120	28.7	-3.7

Table 5 (Cont.): Medicare Part B fee-for-service claims: Allowed charges for physician services covered by the Medicare fee schedule for procedures: 1990-1993

Service category	1990	1991	1992	1993[1]	1990-91	1991-92
	Allowed charges (in millions)				Percent Change	
Endoscopy	1,442	1,657	1,503	1,391	14.9	-9.3
Arthroscopy	67	79	76	74	18.6	-3.7
Upper GI Endoscopy	382	442	398	354	15.6	-9.9
Sigmoidoscopy	120	121	98	82	1.0	-19.1
Colonoscopy	468	497	451	420	6.3	-9.3
Cystoscopy	238	260	238	223	9.1	-8.5
Broncoscopy	86	94	80	67	9.6	-15.3
Laparoscopic Cholecystectomy	4	74	76	83	2,006.9	2.1
Laryngoscopy	38	42	32	36	10.4	-23.4
Other	40	48	54	53	20.4	12.8
Dialysis	143	164	162	136	14.2	-1.0
Tests	1,001	988	572	411	-1.3	-42.2
Electrocardiograms	618	590	202	210	-4.5	-65.8
Cardiov Stress Tests	144	159	207	157	10.9	29.9
EKG Monitoring	192	185	165	152	-3.2	-10.7
Other	48	54	68	75	12.6	25.9
Anesthesia	1,301	1,392	1,305	1,119	7.0	-6.2

[1]Preliminary data for 1993.

Sources: 5 percent BMAD for 1990 and 1991; HCFA Part B Monitoring System (Updated through December 1993) for 1992 and 1993.
Prepared by: Office of Research and Demonstrations, HCFA.

Table 6. Visits and consultations for vulnerable population groups, 1991

	Outpatient Visits	ER Visits	Home Visits	Hospital Visits	Nursing Home Visits	Consultations
	Age-sex adjusted visits per beneficiary					
Shortage Areas						
All	4.72 **	0.38 **	0.03	2.61 **	0.30	0.41 **
Urban	4.91 **	0.42 **	0.04 **	3.08 **	0.34 **	0.49 **
Rural	4.43 **	0.32 **	0.02**	1.87 **	0.25 **	0.28 **
Non-shortage	5.12	0.31	0.03	2.42	0.31	0.40
Poor Areas						
All	5.07 *	0.41 **	0.06 **	3.06 **	0.38 **	0.48 **
Urban	5.12	0.42 **	0.07 **	3.21 **	0.41 **	0.54 **
Rural	4.89 **	0.37	0.01	2.49	0.26	0.27
Non Poor	5.10	0.31	0.03	2.38	0.31	0.40
Race						
Black	4.67 **	0.47 **	0.03 *	3.23 **	0.37 **	0.45 **
White	5.21	0.31	0.03	2.41	0.32	0.41
Medicaid Eligible						
Yes	5.71 **	0.69 **	0.07 **	4.60 **	1.51 **	0.59 **
No	5.03	0.28	0.03	2.20	0.18	0.38
Disabled						
Yes	5.43 **	0.57 **	0.05 **	3.94 **	0.55 **	0.56 **
No	5.06	0.29	0.03	2.26	0.29	0.39
Age						
85+ Years	4.26 **	0.53 **	0.17 **	4.36 **	2.26 **	0.51 **
Less than 85	5.12	0.31	0.03	2.38	0.26	0.40
Area of Residence						
Rural	4.72 **	0.32	0.02 **	2.08 **	0.28 **	0.29 **
Urban	5.25	0.32	0.04	2.57	0.32	0.45
All Beneficiaries	5.10	0.32	0.03	2.43	0.31	0.40

*Significantly different from comparison group at the 0.05 level.
**Significantly different from comparison group at the 0.01 level.
Note: Rates for each vulnerable group are contrasted with the appropriate comparison group.

Source: Part B claims and denominator file for a sample of Medicare beneficiaries, 1991.
Prepared by: Center for Health Economics Research

Table 7. Percent of persons with a physician visit and mean number of visits per person by health insurance status: selected years, 1984-1990

Health insurance status	Percent distribution of persons	Percent with a physician visit				Mean number of visits per person			
	1990	1984	1986	1989	1990	1984	1986	1989	1990
65 years and over[1]	100.0	82	83	85	86	8.2	9.1	8.9	9.2
Medicare only	14.9	76	73	79	78	7.6	8.3	7.5	8.1
Medicare & other public program	7.8	89	86	90	88	11.9	14.0	13.1	14.1
Medicare & other coverage	73.9	84	85	87	87	8.3	8.9	8.8	8.9
18-64 years[2]	100.0	70	71	72	73	4.9	5.2	5.2	5.4
Public program	6.2	84	83	85	85	10.1	11.9	11.1	11.1
Insured but not public program	76.7	72	73	75	75	4.7	5.0	5.1	5.2
Uninsured	17.1	57	57	57	60	3.7	3.6	3.2	4.0

[1] Includes persons with insurance other than Medicare and unknown insurance.
[2] Includes persons with unknown insurance.

Source: National Health Interview Survey, National Center for Health Statistics.
Prepared by: Office of Research and Demonstrations, HCFA

Table 8. Utilization, access, and satisfaction indicators, by age: 1991-1992

	1991			1992		
	All Medicare Beneficiaries	Disabled (Under Age 65)	Elderly (Age 65 and Over)	All Medicare Beneficiaries	Disabled (Under Age 65)	Elderly (Age 65 and over)
Type of Regular Source						
Physician's office	67.0%	57.3%*	68.0%	69.4%	58.4%*	70.4%
Other place with regular physician	19.7%	24.6%*	19.2%	16.9%	20.0%	16.6%
Other place with no regular physician	4.5%	9.1%	4.0%	4.1%	9.2%*	3.6%
None	8.8%	9.0%	8.8%	9.7%	12.4%	9.4%
Physician Use						
Percent with:						
Physician visit (any setting)	86.5%	86.1%	86.5%	90.4%[a]	89.3%[a]	90.5%[a]
Physician visit in non-hospital setting	83.6%	81.4%	83.9%	87.2%[a]	82.5%*	87.7%[a]
Outpatient department visit	26.7%	33.5%*	26.0%	36.3%[a]	41.6%*[a]	36.9%[a]
Emergency room visit	17.8%	28.5%*	16.6%	21.8%[a]	34.1%*[a]	21.3%[a]
Average number of office visits per user						
Total	6.2	6.3	6.2	6.5[a]	6.4	6.5[a]
To primary care physician	4.6	4.6	4.6	4.6	4.4	4.6
To medical specialist	3.0	3.5*	3.0	3.2	4.0*	3.2
To other specialist	3.2	3.7*	3.2	3.2	3.6*	3.2
To non-physician	2.1	2.1	2.1	2.1	2.1	2.1
Hospital Use						
Percent with hospitalization	15.2%	18.4%*	14.8%	15.1%	17.4%*	15.1%
Percent with ACS condition	3.5%	4.4%	3.4%	3.6%	4.4%	3.6%
Preventive Use						
Percent with flu shot in previous winter	41.0%	24.5%*	42.7%	47.6%[a]	26.6%*	49.1%[a]
Percent of women with mammogram in previous year	39.1%	30.8%*	40.0%	33.6%[a]	30.1%	34.2%[a]
Percent of women with Pap test in previous year	49.1%	55.3%*	48.5%	33.4%[a]	41.8%*[a]	33.6%[a]
Barriers to Care						
Percent reporting a health problem and not receiving care in previous year	9.5%	22.8%*	8.1%	7.4%[a]	19.3%*[a]	6.8%[a]
Of those, percent reporting a financial barrier	53.8%	69.8%*	52.2%	56.7%	71.2%*	55.8%
Satisfaction with Care						
Percent satisfied with:						
Quality of medical care	94.5%	88.9%*	95.1%	96.1%[a]	92.0%*[a]	96.4%[a]
Availability of medical care	94.2%	88.7%*	94.8%	96.4%[a]	92.8%*[a]	96.4%[a]
Ease of getting to doctor	92.6%	83.5%*	93.6%	93.6%	88.0%*[a]	93.9%
Costs of medical care	71.0%	61.1%*	72.0%	79.7%[a]	69.4%*[a]	80.2%[a]

* Significantly different from those age 65 and over ($p<0.05$).
[a] Significantly different over time (1991 - 1992).
Note: Age-adjusted using the direct method of standardization.

Sources: Medicare Current Beneficiary Survey, Round 1 and Round 4 Data; Medicare NCH Claims for MCBS Population.
Prepared by: Center for Health Economics Research.

Table 9: Influenza immunizations per 100 persons for aged and disabled Medicare beneficiaries, by gender and race: 1993

Gender and race	Aged beneficiaries			
	All Ages	65-74 yrs.	75-84 yrs.	85+ yrs.
All Persons	25.1	23.9	27.0	25.3
Men	25.1	23.0	28.3	30.1
Women	25.1	24.6	26.2	23.6
White	27.3	26.3	29.0	26.7
Black	11.2	10.4	12.3	12.5

	Disabled beneficiaries			
	All Ages	0-44 yrs.	45-54 yrs.	55-64 yrs.
All Persons	9.8	4.8	9.1	15.0
Men	8.5	4.1	7.8	13.4
Women	11.8	6.0	11.1	17.3
White	11.2	5.7	10.2	16.6
Black	4.6	1.9	4.5	7.6

Note: Immunization counts are based only on the physician component, HCPCS=Q0124.
A complete enumeration would include the vaccine itself, HCPCS=90737.

Source: HCFA Part B Administrative Data through December 1993.
Prepared by: Office of Research and Demonstrations, HCFA

Table 10. Covered preventive service use for vulnerable population groups, 1991

	Mammography[a]	PapTest[a]	Pneumococcal Pneumonia Immunization
	Age-sex adjusted services per 1,000 beneficiaries		
Shortage Areas			
All shortage combined	240.1**	149.5**	54.28**
Urban	231.2**	133.0**	61.14**
Rural	254.9**	177.0	43.33
Non-shortage	281.3	199.7	38.05
Poor Areas			
All poor combined	215.3**	145.3**	19.51**
Urban	221.4**	138.1**	18.96**
Rural	191.6**	173.4*	21.55**
Non-poor	284.3	201.3	40.49
Race			
Black	195.0**	156.7**	27.46**
White	293.0	205.2	40.74
Medicaid Eligible			
Yes	156.6**	110.5**	20.91**
No	294.9	208.2	40.89
Disabled			
Yes	225.4**	166.9**	29.64**
No	283.1	199.3	39.99
Age			
85+ years	64.1**	50.4**	23.68**
Less than 85 years	287.2	202.6	39.35
Area of Residence			
Rural	252.0**	213.1	34.71
Urban	289.3	191.0	40.56
All Beneficiaries	278.8	197.2	38.91

* Significantly different from comparison group at the 0.05 level.
** Significantly different from comparison group at the 0.01 level.
[a] Age-adjusted for female enrollees only.

Note: Rates for each vulnerable group are contrasted with the appropriate comparison group.

Source: Part B claims and denominator file for a sample of Medicare beneficiaries, 1991.
Prepared by: Center for Health Economics Research.

Table 11. Ambulatory Care Sensitive (ACS) admission rates for vulnerable population groups, 1991

	Bacterial Pneumonia	Asthma	Congestive Heart Failure	Diabetes w/ Complications[a]	Total[b]
	(age-sex adjusted admissions per 1,000 beneficiaries)				
Shortage Area					
All shortage combined	11.1*	3.8**	19.1**	4.0**	71.8**
Urban	10.3	4.7**	21.5**	4.7**	77.7**
Rural	12.3**	2.4	15.3	3.0	62.5
Non shortage	10.4	2.7	15.7	2.8	60.8
Poverty Area					
All Poor combined	11.6**	4.1**	21.2**	4.8**	79.1**
Urban	10.5	4.2**	21.7**	4.9**	88.2**
Rural	15.6**	3.7**	19.6**	4.6**	76.6**
Non Poor	10.3	2.7	15.5	2.7	59.9
Race					
Black	9.7**	4.6**	25.3**	6.8**	84.2**
White	10.6	2.6	15.2	2.5	59.8
Medicaid Eligible					
Yes	23.4**	6.0**	32.6**	6.5**	136.1**
No	9.0	2.4	14.1	2.4	53.3
Disabled					
Yes	16.4**	5.9**	27.2**	6.1**	110.7**
No	9.8	2.4	14.6	2.2	55.8
Age					
85+ years	30.0**	2.4**	39.2**	2.3**	130.3**
Less than 85 years	9.9	2.8	15.3	2.9	59.5
Area of Residence					
Rural	13.0**	2.8	15.7	3.0	68.0**
Urban	9.4	2.7	16.0	2.8	58.8
All Beneficiaries	10.4	2.7	15.9	2.9	61.4

* Significantly different from comparison group at 0.05 level.

** Significantly different from comparison group at 0.01 level.

a Includes ketoacidosis, coma, and all other complications.

b Includes all ACS conditions, not just those shown here.

Note: Some national rates for specific Ambulatory Care Sensitive conditions may vary from those obtained from 100 percent data due to sampling.

Source: Part A claims and denominator file for a sample of Medicare beneficiaries, 1991.
Prepared by: Center for Health Economics Research

Table 12. Comparison of age-adjusted rates of selected procedures in elderly black and white Medicare beneficiaries, and 30-day post-admission death rates, 1990 and 1992

	Procedure rate								30-day post-admission death rate				
	1990			1992			Change		1990		1992		Change
	Number	Rate/* 1,000	Black/ white ratio	Number	Rate/* 1,000	Black/ white ratio	in rate, 1990-92 (percent)		Rate/** 1,000	Black/ white ratio	Rate/** 1,000	Black/ white ratio	in rate, 1990-92 (percent)
Heart and Vascular Procedures													
Cardiac catheterization													
White	334,039	13.82	0.65	409,074	16.19	0.68	17.2	+	na	na	na	na	na
Black	18,689	8.97		23,539	11.05		23.2	+	na	na	na	na	na
Percutaneous transluminal coronary angioplasty (PTCA)													
White	88,594	3.56	0.40	125,610	4.98	0.44	39.9	+	23.88	1.16	23.27	1.05	-2.6
Black	2,942	1.41		4,703	2.21		56.7	+	27.59		24.38		-11.6
Coronary artery bypass graft (CABG)													
White	90,749	3.64	0.37	121,020	4.79	0.39	31.6	+	32.87	1.28	40.57	1.12	23.4 +
Black	2,792	1.34		3,920	1.85		38.1	+	42.11		45.61		8.3
Carotid endarterectomy													
White	43,314	1.73	0.30	60,090	2.36	0.31	36.4	+	18.54	1.28	15.53	1.32	-16.2 +
Black	1,090	0.52		1,569	0.73		40.4	+	23.66		20.43		-13.7
Orthopedic and Back Procedures													
Reduction of fracture of femur													
White	121,773	4.76	0.42	132,447	4.99	0.44	4.8	+	58.28	0.78	57.51	0.83	-1.3
Black	4,343	2.02		4,950	2.21		9.4	+	45.71		47.71		4.4
Other arthroplasty of hip													
White	62,945	2.46	0.47	71,178	2.69	0.45	9.4	+	55.88	0.95	55.27	0.84	-1.1
Black	2,474	1.15		2,715	1.21		5.2		53.35		46.68		-12.5
Total knee replacement													
White	80,990	3.24	0.62	105,670	4.17	0.64	28.7	+	5.52	1.59	4.28	1.47	-22.5 +
Black	4,256	2.02		5,805	2.68		32.7	+	8.75		6.31		-27.9
Total hip replacement													
White	63,260	2.52	0.45	67,876	2.66	0.49	5.6	+	14.71	1.05	13.56	1.10	-7.8
Black	2,408	1.14		2,806	1.30		14.0	+	15.42		14.98		-2.9
Laminectomy													
White	33,852	1.36	0.54	36,069	1.54	0.53	13.2	+	11.75	1.58	10.07	2.02	-14.3 +
Black	1,536	0.74		1,737	0.81		9.5	+	18.53		20.38		10.0
Excision of disk													
White	30,589	1.23	0.50	33,816	1.35	0.50	9.8	+	6.38	2.43	5.37	2.12	-15.8
Black	1,289	1.62		1,451	0.68		9.7	+	15.48		11.41		-26.3
Spinal fusion													
White	11,387	0.46	0.61	16,092	0.64	0.63	39.1	+	18.87	1.11	13.80	1.56	-26.9 +
Black	581	0.28		846	0.40		42.9	+	20.99		21.57		2.8

Table 12 (cont.). Comparison of age-adjusted rates of selected procedures in elderly black and white Medicare beneficiaries, and 30-day post-admission death rates, 1990 and 1992

	Procedure rate								30-day post-admission death rate				
	1990			1992			Change in rate, 1990-92 (percent)		1990		1992		Change in rate, 1990-92 (percent)
	Number	Rate/* 1,000	Black/ white ratio	Number	Rate/* 1,000	Black/ white ratio			Rate/** 1,000	Black/ white ratio	Rate/** 1,000	Black/ white ratio	
Other Procedures													
Prostatectomy													
White	226,416	22.41	0.91	211,851	20.55	0.97	-8.3	+	9.59	1.18	9.22	1.27	-3.9
Black	16,911	20.44		16,738	19.99		-2.2	+	11.31		11.72		3.6
Cholecystectomy													
White	131,430	5.25	0.62	74,338	2.90	0.75	-44.8	+	29.87	1.33	41.01	1.03	37.3 +
Black	6,919	3.28		4,706	2.17		-33.8	+	39.77		42.40		6.6
Repair of inguinal hernia													
White	59,174	2.34	0.72	41,937	1.62	0.85	-30.8	+	13.75	1.53	16.68	1.13	21.3 +
Black	3,489	1.68		2,936	1.38		-17.9	+	21.10		18.81		-10.9
Mastectomy													
White	54,284	3.61	0.75	51,953	3.43	0.81	-5.0	+	5.22	1.54	4.96	1.50	-5.0
Black	3,491	2.72		3,641	2.77		1.8		8.03		7.42		-7.6
Hysterectomy													
White	51,258	3.46	0.63	54,906	3.67	0.60	6.1	+	7.40	2.22	7.44	2.04	0.5 +
Black	2,779	2.19		2,897	2.21		0.9		16.41		15.16		-7.6
Appendectomy													
White	11,157	0.45	0.73	11,522	0.45	0.76	0.0		27.39	1.75	27.64	2.33	0.9
Black	691	0.33		729	0.34		3.0		47.84		64.44		34.7
Incidental Appendectomy													
White	10,635	0.43	0.84	9,448	0.37	0.84	-14.0	+	30.74	1.46	34.01	1.33	10.6
Black	747	0.36		670	0.31		-13.9	+	44.77		45.16		0.9

* per 1,000 enrollees

** per 1,000 discharges

na Not applicable because cardiac catherization is a diagnostic procedure that is often followed by a surgical procedure

\+ significant at p value < 0.01

SOURCE: Data from the Health Care Financing Administration, Bureau of Data Management and Strategy, Medicare Provider Analysis and Review files.

Prepared by: Office of Research and Demonstrations. HCFA

Table 13. Mean caseload per physician, by specialty group: 1991-1992

Specialty[a]	Expected National Mean Price Change(%)[b]	Number of Sample Physicians	1991 Mean Caseload	1992 Mean Caseload	Change in Mean Caseload	Percent Change
Primary Care	n/a	1,578	277	289	12 **	4
Family Practice	15	916	277	287	10 **	4
General Practice	17	657	275	289	14 *	5
Psychiatry	-2	306	64	69	5 *	8
Medical Specialties	n/a	1,604	374	396	22 **	6
Allergy/Immunology	n/a	36	92	102	10	11
Physical Medicine	n/a	32	185	195	10	6
Pediatrics	n/a	71	39	41	2	6
Gastroenterology	-10	93	421	458	37 **	9
Cardiology	-9	210	577	653	76 **	13
Nephrology	-6	43	328	355	28 **	8
Neurology	-4	101	365	363	-2	0
Pulmonary Disease	-3	62	437	462	25 *	6
Internal Medicine	0	915	371	384	13 **	4
RAP[c]	n/a	798	774	836	62 **	8
Anesthesiology	-11	354	204	226	22 **	11
Pathology	-10	103	781	796	15	2
Radiology	-10	338	1,373	1,492	119 **	9
Surgery	n/a	1,994	291	305	13 **	5
Obstetrics/Gynecology	n/a	417	66	70	4 **	7
Oral Surgery (Dentist)	n/a	65	17	18	2	11
Thoracic Surgery	-14	69	235	244	9	4
Ophthalmology	-11	214	795	835	40 *	5
Neurosurgery	-10	69	155	163	7	5
General Surgery	-8	373	239	241	2	1
Orthopedic Surgery	-8	324	235	246	12 **	5
Plastic Surgery	-8	63	124	129	5	4
Urology	-6	130	494	545	51 **	10
Dermatology	-1	116	643	663	20	3
Otolaryngology	2	141	293	303	10	4
LLP	n/a	1,030	118	123	6 **	5
Podiatry Surgery	6	113	396	403	7	2
Chiropractic	12	529	45	47	2 **	5
Optometry	20	388	135	146	11 **	8

[a] Data for the six broad specialty groups may include physicians in detailed specialties not shown.
[b] Percent change in average price per service forecasted by HCFA in Federal Register 56(227), Nov. 25, 1991.
[c] Subtotal for radiology, pathology, and anesthesiology.
** = statistically significant at .01 level
* = statistically significant at .05 level
n/a = not available

Note: Data derived from upper-bound estimation method; see text for definition.
LLP = Limited License Practitioners; Oral Surgeons (Dentists) are also LLP but included with Surgeons for this analysis.

Source: HCFA Part B Monitoring System: National Claims History Physician Sample File.
Prepared by: Office of Research and Demonstrations, HCFA

Table 14. Mean allowed charges per physician, by specialty group: 1991-1992

Specialty[a]	Expected National Mean Price Change (%)[b]	Number of Sample Physicians	1991 Mean Allowed Charges	1992 Mean Allowed Charges	Change in Mean Allowed Charges	Percent Change
Primary Care	n/a	1,579	$37,362	$41,039	$3,677 **	10
Family Practice	15	916	40,235	44,217	3,982 **	10
General Practice	17	658	33,364	36,603	3,239 **	10
Psychiatry	-2	306	19,753	21,764	2,011	10
Medical Specialties	n/a	1,610	111,686	114,041	2,356	2
Allergy/Immunology	n/a	36	18,391	23,820	5,428 **	30
Physical Medicine	n/a	32	52,396	56,049	3,653	7
Pediatrics	n/a	73	6,519	7,690	1,171 *	18
Gastroenterology	-10	93	157,680	152,084	-5,596	-4
Cardiology	-9	212	217,537	221,450	3,913	2
Nephrology	-6	43	192,054	193,290	1,236	1
Neurology	-4	101	71,001	64,377	-6,625	-9
Pulmonary Disease	-3	62	135,552	133,313	-2,239	-2
Internal Medicine	0	917	98,587	102,241	3,654 *	4
RAP[c]	n/a	798	76,901	78,446	1,546	2
Anesthesiology	-11	354	49,632	49,006	-626	-1
Pathology	-10	103	60,085	63,397	3,312	6
Radiology	-10	338	111,005	114,385	3,379	3
Surgery	n/a	1,994	97,020	94,082	-2,938 **	-3
Obstetrics/Gynecology	n/a	417	9,879	9,714	-165	-2
Oral Surgery (Dentist)	n/a	65	3,238	2,802	-436	-13
Thoracic Surgery	-14	69	232,038	226,249	-5,789	-2
Ophthalmology	-11	214	266,963	263,707	-3,256	-1
Neurosurgery	-10	69	88,531	83,144	-5,387	-6
General Surgery	-8	373	92,426	82,454	-9,972 **	-11
Orthopedic Surgery	-8	324	95,978	93,256	-2,722	-3
Plastic Surgery	-8	63	53,050	49,472	-3,578	-7
Urology	-6	130	168,929	175,410	6,480	4
Dermatology	-1	116	104,593	103,204	-1,389	-1
Otolaryngology	2	141	45,048	44,081	-967	-2
LLP	n/a	1,030	11,992	12,616	625 **	5
Podiatry Surgery	6	113	52,214	49,131	-3,083 *	-6
Chiropractic	12	529	5,710	6,600	890 **	16
Optometry	20	388	8,842	10,185	1,343 **	15

NOTE: LLP = Limited License Practitioners; Oral Surgeons (Dentists) are also LLP but included with Surgeons for this analysis

[a] Data for the six broad specialty groups may include physicians in detailed specialties not shown.

[b] Percent change in average price per service forecasted by HCFA in Federal Register 56(227), Nov. 25, 1991.

[c] Subtotal for radiology, pathology, and anesthesiology.

** = statistically significant at .01 level

* = statistically significant at .05 level

n/a = not available

Source: HCFA Part B Monitoring System: National Claims History Physician Sample File.

Prepared by: Office of Research and Demonstrations, HCFA.

Table 15. Primary care and medical specialties per 100,000 Medicare beneficiaries, by region, U.S. 1984-1992

	Year									Average annual percent change	
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1984-91	1991-92
	Primary care and medical specialties per 100,000 Medicare beneficiaries										
U.S. Total	839	848	856	873	899	914	918	934	950	1.55	1.71
Region											
Northeast	954	967	982	1,017	1,057	1,082	1,092	1,124	1,154	2.38	2.67
Midwest	751	757	764	773	793	805	804	821	836	1.28	1.83
South	719	731	743	763	785	795	799	811	824	1.74	1.60
West	1,048	1,052	1,045	1,044	1,069	1,087	1,091	1,096	1,105	0.65	0.82
Metropolitan Areas	1,010	1,020	1,030	1,054	1,086	1,105	1,110	1,133	1,156	1.66	2.03
Large Metro. Core	1,251	1,265	1,278	1,313	1,358	1,382	1,392	1,429	1,468	1.92	2.73
Large Metro. Fringe	937	950	964	990	1,025	1,052	1,058	1,078	1,098	2.03	1.86
Medium Metropolitan	856	864	873	891	917	931	938	953	969	1.55	1.68
Lesser Metropolitan	779	786	791	797	813	829	830	842	856	1.12	1.66
Nonmetropolitan Areas	385	391	394	392	400	405	402	399	397	0.52	-0.50
Urbanized Adjacent	452	457	461	453	464	469	466	463	461	0.35	-0.43
Urbanized Nonadjacent	625	634	637	637	652	661	661	665	668	0.89	0.45
Less Urban Adjacent	322	327	331	330	335	339	334	329	323	0.32	-1.82
Less Urban Nonadjacent	357	361	362	359	366	369	366	363	361	0.24	-0.55
Thinly Pop. Adjacent	226	228	231	232	238	237	229	226	224	0.02	-0.88
Thinly Pop. Nonadjacent	222	228	233	231	237	235	231	224	218	0.15	-2.68
Ex Ante Impact Group											
Increase	800	806	804	816	834	849	854	865	875	1.13	1.16
No Change	740	752	763	783	808	826	834	850	865	2.00	1.76
Moderate Decrease	856	866	876	896	925	939	942	966	989	1.75	2.38
Large Decrease	924	932	939	949	974	989	990	998	1,009	1.11	1.10

Note: Ex Ante Impact Group refers to areas grouped according to expected changes in Medicare physician payment under PPR, as published in the Federal Register Vol. 56 (227). See Appendix II, Technical Note C.

Source: Derived from tables prepared by Project HOPE: based on the Area Resource File and HCFA Denominator File.
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